

TABLES

Table 1-1
Summary of Compliance
June 2005

Extraction Well Network	Compliance Criteria Met (yes/no)	Comments
Flow Rate Performance - Target Extraction Rate		
Newmark North Extraction Well Network	No	The City is unable to sustain the three month rolling average Target Extraction Rate for the Newmark North extraction well network (see Table 2-3). A letter informing the EPA and DTSC of this condition was sent out on July 25, 2005. A copy of the letter is provided in Appendix C.
Newmark Plume Front Extraction Well Network	NA	Flow rate performance criteria are not applicable until the Muscoy OU is declared Operational and Functional
Muscoy Plume Extraction Well Network	NA	Flow rate performance criteria are not applicable until the Muscoy OU is declared Operational and Functional
Flow Performance - Particle Tracking		
Newmark Plume Front Extraction Well Network	NA	Flow performance criteria for the Newmark OU IRA are not applicable until particle tracking methodology is established in an approved Operational Sampling and Analysis Plan
Muscoy Plume Extraction Well Network	NA	Flow performance criteria are not applicable until the Muscoy OU is declared Operational and Functional
Contaminant Performance - Downgradient Monitoring Wells		
Newmark Plume Front Extraction Well Network	NA	The first monitoring well sampling round for evaluating contaminant performance will be conducted in November 2005
Muscoy Plume Extraction Well Network	NA	Contaminant performance criteria are not applicable until the Muscoy OU is declared Operational and Functional

Notes:

NA - not applicable (see comment for reason)

Table 2-1
Summary of Newmark OU O&M - Extraction Wells

Reporting Period: June 1, 2005 - June 30, 2005
System Operation Date: October 1, 2000
Operations Completed: 5 years and 9 months

Newmark North Plant Extraction Well Network (EPA 006, EPA 007, Newmark 3)	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report), monthly hands on physical, annual oil change, semi-annual check of VFD
Description of Problems Encountered	EPA 006 is operating on a 12 hour daily schedule due to the pump breaking suction after extended pumping periods. The pump was last tested on June 30, 2005. It should be noted that in the May 2005 Progress Report the mention of May downtime for Newmark 3 was incorrect. Indeed, Newmark 3 was operational all of May.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	Unable to meet the three month rolling average Target Extraction Rate (see the letter to the EPA/DTSC provided in Appendix C).
Newmark Plume Front Extraction Well Network (EPA 001, EPA 002, EPA 003, EPA 004, EPA 005)	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report), monthly hands on physical, annual oil change, semi-annual check of VFD
Description of Problems Encountered	None
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None

Table 2-2
Summary of Extraction Well Flow Data
June 2005

Extraction Well ⁽²⁾	Monthly Extracted Water Volumes (acre-ft)	Average Monthly Flow Rate (gpm)	Cumulative Volume Extracted ⁽¹⁾ (acre-ft)	Number of Days in Month =	30
				Monthly Run Time (days)	Monthly Down Time (days)
Newmark North Plant Extraction Well Network					
EPA 006	54.2	409	3,239	19.7	10.3
EPA 007	166.2	1,254	6,700	29.7	0.3
Newmark 3	107.8	813	4,703	30.1	-0.1
Network Total	328.2	2,476	14,643		
Newmark Plume Front Extraction Well Network					
EPA 001	199.2	1,502	8,998	29.8	0.2
EPA 002	149.3	1,126	10,175	30.0	0.0
EPA 003	202.1	1,524	11,660	29.8	0.2
EPA 004	198.7	1,499	10,859	30.3	-0.3
EPA 005	208.1	1,570	9,719	30.3	-0.3
Network Total	957.4	7,221	51,411		

Notes:

Per the terms of the Statement of Work, once Muscoy is declared O&F the City will be required to demonstrate flow compliance with each extraction well networks Target Extraction Rates considering the specified maintenance allowances. At such time the City will provide the supporting calculations in a tabular format.

(1) - Cumulative volume extracted since Newmark OU System Operations Date (October 1, 2000)

(2) - Extraction well names have been modified from what was submitted in the March/April 2005 progress report, and the naming listed in the SOW. The modification was performed to be consistent with historical naming conventions within the City's water supply systems and to facilitate proper sorting of data. The naming change is as follows:

Old Name	Modified Name	Old Name	Modified Name
EW 1	EPA 001	EW 5	EPA 005
EW 2	EPA 002	EW 6	EPA 006
EW 3	EPA 003	EW 7	EPA 007
EW 4	EPA 004		

Table 2-3
Three Month Rolling Average Extraction Volume and Rate Calculations
June 2005

Extraction Well	Total Volume Pumped In The Last Three Months (acre-ft)	Three Month Rolling Average Extraction Rate (gallons/month)	Monthly Target Extraction Rate ⁽¹⁾ (gallons/month)	Three Month Rolling Extraction Rate (gpm)	Design Extraction Rate (gpm)	Target Extraction Rate With Maintenance Allowance ⁽²⁾ (gpm)	Difference Between Three Month Rolling Average and TER (gpm)
Newmark North Plant Extraction Well Network							
EPA 006	174	1.891E+07	3.960E+07	433	1,000	904	-471
EPA 007	539	5.852E+07	5.148E+07	1,340	1,300	1,175	165
Newmark 3	278	3.018E+07	6.336E+07	691	1,600	1,446	-755
	991	1.076E+08	1.544E+08	2,464	3,900	3,525	-1,061

Notes:

The Newmark Plume Front extraction well network is not included in this table since three month rolling average extraction criteria will not be in effect until the Muscoy Plume Front extraction well network is declared operational and functional.

(1) - The Target Extraction criteria in Section III.B.3 of the SOW is expressed as gallons per month.

(2) - Target extraction rates are the design extraction rates adjusted for the maintenance allowance.

Table 2- 4
Extraction Well Monitoring Results - PCE and TCE
June 2005

Extraction Well	Date Sampled	PCE Concentration (µg/L)	TCE Concentration (µg/L)
Newmark North Extraction Well Network			
EPA 006	No samples collected during the reporting period	--	--
EPA 007	No samples collected during the reporting period	--	--
Newmark 3	No samples collected during the reporting period	--	--
Newmark Plume Front Extraction Well Network			
EPA 001	No samples collected during the reporting period	--	--
EPA 002	No samples collected during the reporting period	--	--
EPA 003	No samples collected during the reporting period	--	--
EPA 004	No samples collected during the reporting period	--	--
EPA 005	No samples collected during the reporting period	--	--

Notes:

These data have been collected and validated using standard SBMWD protocol as required under SBMWDs DHS Permit. Once the project QA/QC Plan has been prepared and approved, SBMWD will adhere to the QA/QC plan when sampling the extraction wells and validating laboratory data.
 NM - Not monitored during the reporting period

**Table 3-1
Summary of Newmark OU O&M - GAC Treatment Plants**

Reporting Period: June 1, 2005 - June 30, 2005
System Operation Date: October 1, 2000
Operations Completed: 5 years and 9 months

Newmark North GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	Encountering trouble with lifting vault lids for Chlorine injection/Cla-valve. Lids are extremely difficult to open. Back feeding water into Chlorination system, will require a check valve to be installed on 1" service line to prevent back flow into chlorination equipment and upgrade service to 2". Several vessels are throttled to compensate for uneven loading of GAC vessels.
Description of Process Improvements Implemented	Installation of check valve to be installed on 1" service line to prevent back flow into chlorination equipment and upgrade service to 2" scheduled for July 2005
Deviations from the Operational Requirements of the Consent Decree	None
17th Street GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	None
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None
Waterman GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)- Carbon change out all 8-"B" vessels (1&2 6/14/05, 3&4 6/16/05, 5&6 6/21/05 7&8 6/23/05)
Description of Problems Encountered	Encountering trouble with lifting vault lids for Chlorine injection/Cla-valve lids are extremely difficult to open.
Description of Process Improvements Implemented	Changed out carbon on all 8-"B" GAC vessels.
Deviations from the Operational Requirements of the Consent Decree	None

Table 3-2
Summary of Treatment Plant Flow Data and Mass Removal Estimates
June 2005

Treatment Plant	Extraction Wells Treated By Plant	Treated Water Volumes (acre-ft)	Average Monthly Flow Rate (gpm)	Estimated Monthly GAC Mass Removal ⁽¹⁾ (lbs)	Estimated Cumulative GAC Mass Removal ⁽²⁾ (lbs)
Newmark North GAC Treatment Plant	EPA 006, EPA 007 and Newmark 3	328.2	2,476	3.6	260.1
17th Street GAC Treatment Plant	EPA 003	202.1	1,524	3.0	180.5
Waterman GAC Treatment Plant ⁽³⁾	EPA 002, EPA 004 and EPA 005	556.1	4,195	2.2	453.4
Total		1086.5	8194.4	8.7	893.9

Notes:

(1) - Monthly mass removal estimates are based on Monthly Treatment Summary sheets documented in monthly DHS reports.

(2) - Cumulative mass removal estimates are for the period since Newmark was declared O&F (October 1, 2000). The historical estimate prior to Consent decree entry is based on a combination of carbon life loading history data and Monthly Treatment Summary spreadsheet.

(3) - Since the beginning of March extracted groundwater from EW-1 has been diverted to the 19th Street Treatment Plant. Therefore, the sum of volume of groundwater extracted from Newmark OU wells is different then the sum of the volume treated by the Newmark OU treatment plants.

Table 3-3
Treatment Plant Monitoring Results - PCE and TCE
June 2005

Extraction Well	Date Sampled	PCE Concentration (µg/L)	TCE Concentration (µg/L)
Newmark North GAC Treatment Plant			
Influent	8-Jun-05	3.9	0.5
Lead Vessel 1	8-Jun-05	3.5	1.0
Lead Vessel 2	8-Jun-05	3.1	1.1
Lead Vessel 3	8-Jun-05	5.8	1.4
Lead Vessel 4	8-Jun-05	4.6	1.0
Lead Vessel 5	8-Jun-05	4.2	1.1
Lead Vessel 6	8-Jun-05	3.6	1.0
Lead Vessel 7	8-Jun-05	3.2	1.0
Combined Effluent	2-Jun-05	<0.5	<0.5
	8-Jun-05	<0.5	<0.5
	16-Jun-05	<0.5	<0.5
	23-Jun-05	<0.5	<0.5
	30-Jun-05	<0.5	<0.5
17th Street GAC Treatment Plant			
Influent	8-Jun-05	4.1	1.0
Lead Vessel 1	8-Jun-05	2.5	1.3
Lead Vessel 2	8-Jun-05	3.3	1.4
Lead Vessel 3	8-Jun-05	3.3	1.4
Combined Effluent	2-Jun-05	<0.5	<0.5
	8-Jun-08	<0.5	<0.5
	16-Jun-05	<0.5	<0.5
	1-Jun-05	<0.5	<0.5
	30-Jun-05	<0.5	<0.5
Waterman GAC Treatment Plant			
Influent	8-Jun-05	1.9	0.6
Lead Vessel 1	2-Jun-05	3.5	1.2
	8-Jun-05	4.0	1.3
Lead Vessel 2	2-Jun-05	2.9	1.0
	8-Jun-05	3.1	1.2
Lead Vessel 3	2-Jun-05	3.8	1.3
	8-Jun-05	3.9	1.3
Lead Vessel 4	2-Jun-05	3.7	1.2
	8-Jun-05	4.1	1.3
Lead Vessel 5	2-Jun-05	3.9	1.3
	8-Jun-05	4.2	1.4
Lead Vessel 6	2-Jun-05	3.6	1.1
	8-Jun-05	4.1	1.2
Lead Vessel 7	2-Jun-05	3.8	1.2
	8-Jun-05	4.0	1.3
Lead Vessel 8	2-Jun-05	3.9	1.2
	8-Jun-05	4.2	1.2
Combined Effluent	2-Jun-05	0.8	1.2
	8-Jun-05	1.0	1.3
	16-Jun-05	1.0	1.2
	23-Jun-05	0.8	0.8
	30-Jun-05	<0.5	<0.5

Notes:

These data have been collected and validated using standard SBMWD protocol as required under SBMWDs DHS Permit. Once the project QA/QC Plan has been prepared and approved, SBMWD will adhere to the QA/QC plan when sampling the extraction wells and validating laboratory data.

NM - Not monitored during the reporting period

Table 4-1
Summary of Newmark OU O&M - Water Level Monitoring

Reporting Period: June 1, 2005 - June 30, 2005
System Operation Date: October 1, 2000
Operations Completed: 5 years and 9 months

Newmark and Muscoy OU Monitoring Wells	
Description Routine Monitoring and Maintenance Performed	Downloaded water level data from RTUs on a weekly basis for monitoring wells designated as part of the Muscoy OU startup program (in the EPA/URS Field Sampling Plan) and less frequently for monitoring wells monitored as part of Newmark OU IRA operations. Periodic collection of manual water level data to verify transducer/RTU water level readings, and to adjust transducer elevation offsets (performed on an as needed basis).
Description of Problems Encountered	Continued to implement modifications of the RTU programming to address data acquisition issues and in preparation for the Muscoy OU IRA startup testing and Newmark OU water level data acquisition. Some of the transducers/RTUs failed to collect usable data during the reporting period. The extent of lost and/or compromised data can be reviewed by examining the hydrographs provided in Appendix B. Discrepancies between manual water level measurements and transducer/RTU based readings were noted in several wells during the reporting period. Transducer elevation offsets are being corrected accordingly.
Description of Process Improvements Implemented	Performed data acquisition checks on the newly installed Kingfisher PC-1 used to replace the unreliable Kingfisher LP1 RTUs. Change over to the new RTUs appears to have corrected the bulk of the data acquisition and data quality problems that were occurring with the old RTUs. Implemented modifications to the RTU programming to address data acquisition issues and in preparation for the Muscoy OU IRA startup testing and Newmark OU water level data acquisition.
Deviations from the Operational Requirements of the Consent Decree	Due to conditions encountered during transition to the SOW, RTU equipment failures, RTU replacement and preparation of the Muscoy OU water level monitoring systems for startup, water level data was not reliable collected on a daily basis during the reporting period. Measures have since been set in place to alleviate this deviation for most of the wells. The following RTU equipped monitoring wells continue to have data acquisition problems and/or elevation offset problems: MW 007A, MW 007B, MW016A (incorrect elevation offset), MW 011A (transducer not working).
Newmark and Muscoy OU Extraction Wells	
Description Routine Monitoring and Maintenance Performed	Downloaded water level data from RTUs on a weekly basis for extraction wells designated as part of the Muscoy OU startup program (in the EPA/URS Field Sampling Plan) and less frequently for extraction wells monitored as part of Newmark OU IRA operations. Periodic collection of manual water level data to verify transducer/RTU water level readings, and to adjust transducer elevation offsets on an as needed basis. Collected manual water levels from within the actual extraction well casings or camera tube on June 29, 2005.
Description of Problems Encountered	Continued to implement modifications of the RTU programming to address data acquisition issues and in preparation for the Muscoy OU IRA startup testing and Newmark OU water level data acquisition. Some of the transducers/RTUs failed to collect usable data during the reporting period. The extent of lost and/or compromised data can be reviewed by examining the hydrographs provided in Appendix B. Discrepancies between manual water level measurements and transducer/RTU based readings were noted in several wells during the reporting period. Transducer elevation offsets are being corrected accordingly. Discrepancies in hand water level data and transducer/RTU based elevations were noted in several wells during the reporting period.
Description of Process Improvements Implemented	Implemented modifications to the RTU programming to address data acquisition issues and in preparation for the Muscoy OU IRA startup testing and Newmark OU water level data acquisition.
Deviations from the Operational Requirements of the Consent Decree	Due to conditions encountered during transition to the SOW, RTU equipment failures, RTU replacement and preparation of the Muscoy OU water level monitoring systems for startup, water level data was not reliable collected on a daily basis during the reporting period. Measures have since been set in place to alleviate this deviation for most of the extraction wells. The following RTU equipped monitoring wells continue to have data acquisition problems and/or elevation offset problems: Newmark 3 (transducer not working), EPA 111A,B,C,D (scaling/linearity issue related to RTU).

Table 4-1
Summary of Newmark OU O&M - Water Level Monitoring

Reporting Period: June 1, 2005 - June 30, 2005
System Operation Date: October 1, 2000
Operations Completed: 5 years and 9 months

Site-Wide Monitoring Wells	
Description Routine Monitoring and Maintenance Performed	Collected monthly manual water level measurements on June 29, 2005.
Description of Problems Encountered	The City is unable to collect Site-Wide manual water levels from a some of wells designated ion the SOW.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	The Site-Wide manual water levels were not able to be collected from the following wells: MW Paperboard (to deep), PZ 124,PZ 125 (well can not be found and appears to have been graded over), Gilbert, 16th and Sierra, 27th and Acacia.

Table 6-1
Schedule of Upcoming O&M, Monitoring and Reporting Events
Planning Period: July/August 2005

Task/Item	Planned Event
Newmark OU Extraction Wells	
Pump/Well Maintenance	Pumping equipment change out EPA 003 - anticipated October 2005
Electrical/Controller Maintenance	Routine
SCADA System and RTU System Maintenance	Continued work on RTU - SCADA communications and system reliability, changing radio frequency. Troubleshoot and repair RTUs and RTU programming as needed.
Extraction Well Monitoring	Collect well head water quality samples in July. Download water level data and check RTU offsets.
Other	None
Newmark OU Treatment Plants	
Carbon Change Outs	None
Electrical/Controller Maintenance	None
SCADA System and RTU System Maintenance	None
Treatment System Monitoring	Routine treatment plant sampling
Other	None
Monitoring Wells	
SCADA System and RTU System Maintenance	Continued work on RTU - SCADA communications and system reliability. Troubleshoot and repair RTUs and RTU programming as needed.
Water Level Monitoring - SCADA Wells	Regularly download water level data and check elevation offsets. Troubleshoot and repair transducers as needed.
Water Level Monitoring - Site-Wide Well	Collect monthly manual water levels
Monitoring Well sampling	No sampling scheduled for SBMWD. EPA/URS sampling will be performed in support of Muscoy OU one-year performance evaluation
Other	None
Project Documents	
Progress Report - July 2005	Scheduled to be submitted August 31, 2005.
QA/QC Plan	A written request for an extension of the submittal date to September 21, 2005 was sent to EPA/DTSC on June 15, 2005.
Community Relations	
Fact Sheets	None planned
Community Meetings	None planned

Table 6-2
Submittal of Deliverables/Documents For 2005

Deliverable	Date Submitted	Status
Groundwater Modeling Work Plan	April 15, 2005	Approved by EPA in Correspondence Dated May 26, 2005
Transmittal of Treatment Plant and Extraction Well Flow Data - March/April 2005	May 31, 2005	Submitted to EPA and DTSC.
Progress Report - March/April 2005	June 14, 2005	Submitted to EPA and DTSC. This is the first monthly progress report submitted. Review and comment pending.
Letter requesting an extension for QA/QC Plan Submittal	June 15, 2005	Currently negotiating the terms of the extension with EPA. QA/QC Plan due date suspended during this time.
Health and Safety Plan	June 17, 2005	Submitted to EPA and DTSC.
Operations and Maintenance Plan	June 17, 2005	Submitted to EPA and DTSC.
Time Line and Schedule	June 21, 2005	Submitted to EPA and DTSC.
Staffing Plan	June 21, 2005	Submitted to EPA and DTSC.
Progress Report - May 2005	June 30, 2005	Submitted to EPA and DTSC.

Table 6-3
Summary of Newmark Groundwater Flow Model Construction Activities
June 2005

Modeling Component	Progress Summary
Activities Conducted During The Reporting Period	
Data Compilation	1) Continued to catalogue data received to date 2) Pursued previous requests for data that have not been fulfilled 3) Requested and initiated compilation of production data and specific capacity data
Conceptual Model Development	1) Refined and completed the initial working draft of the 3D lithology model 2) Developed conceptual model approach to incorporating key elements of the conceptual model including groundwater flow model boundaries, water balance, and aquifer parameterization. 3) Presented conceptual model approach and results to TAC 4) Initiated documentation of the conceptual model
Model Construction	Continued to methodically refine model as follows: a) USGS model with cell size 102x102 ft (with HFB and STR Packages) b) USGS model with cell size 102x102 ft and refinement of HFB and STR Packages c) Cell size 102x102 ft with refinements of Well Package (including all specified flux elements (well, artificial recharge, ungaged runoff, etc.) d) USGS model (transmissivity based) converted into two layer model with hydraulic conductivity and hydrostratigraphic layer thickness
Model Calibration	1) Calibration will continue with evaluating each of the above described runs with the USGS model for calibration of water balance and head values 2) Initiated consolidation of head data in preparation of Calibration Plan
Meetings	1) Richard Coffman of DTSC June 20, 2005 2) Working Group Meeting June 21, 2005 3) TAC Meeting June 23, 2005

Table 6-3
Summary of Newmark Groundwater Flow Model Construction Activities
June 2005

Modeling Component	Progress Summary
Activities Planned/Conducted in July and August	
Data Compilation	1) Continue to catalogue data received to date 2) Follow-up on previous requests for data that have not been fulfilled
Conceptual Model Development	1) Prepare and distribute documentation of conceptual model approach to TAC 2) Meet with Wes Danskin and John Matty (USGS) to identify pertinent flow barriers (faults) within model domain 3) Document conceptual model approach, process and results
Model Construction	Continue to methodically refine model as follows: a) USGS model with cell size 102x102 ft (with HFB and STR Packages) - estimated completion July b) USGS model with cell size 102x102 ft and refinement of HFB and STR Packages - estimated completion July c) Cell size 102x102 ft with refinements of Well Package -estimated completion July d) Conversion from transmissivity model to hydrostratigraphic model - two layer - estimated completion July e) Conversion from transmissivity model to hydrostratigraphic model - five layer -estimated completion August f) Refinement of model to monthly stress periods - estimated completion August g) Refinement of model parameters - estimated completion - August
Model Calibration	1) Calibration will continue with evaluating each of the above described runs with the USGS model for calibration of water balance and head values 2) Development of Calibration Plan
Meetings	1) TAC Meeting tentatively scheduled for August 25, 2005 2) Working Group Meeting tentatively scheduled for second week of August 3) Meet with Wes Danskin and John Matty (USGS) to identify pertinent flow barriers (faults) within model domain

Note:

The Newmark Groundwater Flow Model is being co-developed with the Regional Basin Flow Model. As such, the City of San Bernardino Water Department's consultant (SECOR) is working jointly with San Bernardino Valley Municipal Water District's consultant (GEOSCIENCE Support Services)